The Logger's BARK

1916 - Radio Club of Tacoma - 2016

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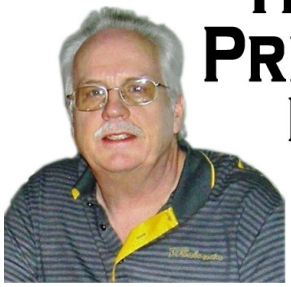

The RCT President's Report

by Gary McAdams WG7X

Hello again club members.

We are starting February, usually a transitional month, from winter into spring. It is also a usually a good month for DX, so keep listening!

Recent Dxpeditions on the charts to islands way down near the Antarctic have kept some of the more ardent DX'ers in the club working to make a contact. It is not easy, especially when the entire ham world seems to be calling... and all at the same time!

But if it was easy, it would offer no challenge, so keep on trying!

On another front, we are still looking for someone to step up and be the club treasurer. We have not had one since the last one abdicated the office. If you would want to do this vital task, please come forward and let the officers of the club know. I am sure that Vice Prez Mike, W7XTZ would be very happy to show you the ropes!

In my travels around the area, I occasionally find someone who for what ever reason, wants to find about ham radio. If this happens to you, talk up the service, and invite said person to the clubhouse or the club meetings. You would be surprised at how many people kind of know about ham radio, but are literally afraid to ask.

UpComing Notable Club Activities

2/24, Weds 7:00 PM Clubhouse Activity Night
3/2, Weds, 7:00 PM Club Officers Board Meeting
3/05, Sat 9:00 AM **Mike and Key Swapmeet [LINK]**
See w7dk.org for more details….
3/08, Tues, 7:00 PM, VE Testing at Clubhouse
3/9, Weds, 7:30 PM– Club Meeting. See w7dk.org
3/10, Thurs… Bark Submission Deadline
3/23, Weds, 7:00 PM Clubhouse Activity Night

Just yesterday, on my way to the clubhouse, I stopped by the vacuum repair place over there on 38th street. I needed a part for our long suffering vacuum cleaner. I had my club badge on and the store owner, who was manning the store, asked me about ham radio and our radio club. It turned out, as is so often does, that he had prior acquaintance with ham radio and was interested in it. We chatted about it, and I invited him to the clubhouse on any given Saturday. Now, as it turns out, he works every Saturday, so I invited him to go to the W7DK.org website to get info on our monthly meetings and the activity nights.

Hopefully, he will follow up on this but even if he does not, at least he is now aware of us, what we do, and ham radio in the new century. Please, if an opportunity arises, to talk up our hobby/service/ avocation don't miss the chance to get another ham radio operator into the service! 73– Gary

Did You Know?

In 1912, Distress signal CQD was replaced the new International Distress call: SOS

GREAT CAESAR'S GHOST

BY RICH KR7W - BARK EDITOR

Two down… 22 issues to go.

I strive to "efficiency-ize" how I "do the editor thing". My goal is to create an informative publication that tells of your club's operations and activities as well as items of interests that fit into the many different areas of amateur radio. I hope to do that by encouraging members to write articles or provide ideas that your editor can take forward and create an interesting story. My current plan is to fill each of the "niches" of this newsletter. The "niches" are the regular columns (subject pages) that will appear in each issue. They are shown **highlighted** in the Contents Box on this page.

The rumor is true– The Bark is written in the W7OS Museum at the old telegraphers desk– just next door to the Club Library that provides reference material. Hey– did you know that there are bound copies of the Bark– when it was published on paper– on the shelves on the wall opposite the Teleg Desk? Take a look during the Saturday Clubhouse open house.

Thanks! Prez Gary, for encouraging us to "talk up" ham radio with the general public. Yes, ham radio still exists.

Big TU to Jeff KB7QAG (a familiar voice on the 2M repeater) shares his neat and compact hamshack this month… and TU to Dave W7UUU allows us into the 'Novice Corner' area of his hamshack.

Thanks to Dave W7UUU- for the information about the 'revival' of the "Logger's Certificate" that encourages club members to make radio contact with other members.

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Randy WB4SPB (who does many jobs at the club) has written a very informative article how you can get started modeling your own antennas with popular and FREE software. Note that this article is REQUIRED READING for attendees of the Antenna Modeling presentation that will be given at an upcoming 4th Wednesday Activity Night at the clubhouse. Watch for that announcement.

Randy and myself report on the FYBO activity that recently took place at Pt Defiance Park. Thanks to all who came out for a nice dry pre-spring day in the park.

The Mike and Key Hamfest is coming up. This event is a $$ maker for your club as well as The Mike and Key Club, and promotes the continuation of amateur radio. I encourage you to attend the event. Since I am BIG on this event… I resurrected the 'tongue in cheek' *Hamfest Survival Guide*. TFRTF (Thanks for reading this far). 30 73 SK DE KR7W

Email me [LINK] your hamshack info, items that you'd like to see in the Bark, For Sale or Trade items, random photos, or any-

DID YOU KNOW?

January 1909: The first Ham Radio organization was formed. "The Junior Wireless Club Limited of New Your City".

HAMSHACKS OF THE MONTH

BY CONTRIBUTING MEMBERS

KB7QAG's Closet Shack

Lower R, Top-Bot: Home Built Accessory panel with 12 Volt power, audio amp and speaker switches, Icom 706MK2G, Uniden Bearcat BCT15X and W2IHY audio EQ and noise gate.

Top Shelf: L-R: MFJ-434 voice keyer, Signalink USB sound card, white box with 2 red switches red knob are digital and audio amp for line out from radio, Heil microphone, AEA Morse Machine CW Keyer, Palomar-Engineers Transceiver Preamplifier, MFJ-929 Auto-Tuner, Wouxun KG-UV6D HT .

Jeff's Antennas include: High Gain Dual Band 2/70 antenna in the attic, 10-15-20 Meter Dipole around the parameter of the room, and a separate VHF receive antenna for the scanner.

W7UUU's Hamshack "Novice Corner": Top Shelf: Drake 2A receiver with 2AQ Q-Mulitiplier / Speaker, Heathkit HM-11 SWR/PWR Meter on top, Drake 2NT transmitter w/ Eico 722 VFO on top. Middle Shelf: Autek QF1A CW audio filter, a collection of 60 crystals for 40 and 80 meters, Heathkit Clock and an old Wind-up Big Ben Alarm Clock. [*Editor's Note: All radios here are old school vacuum tube type.*]

Bottom Shelf: Blue box is Antenna Switch/ Tuner/SWR Meter. Keys include Speed-X bug, SATO Japanese-Straight Key, A Hamkey paddle-straight key combo, a Hallicrafters HA-1 TO Keyer. All keys are connected together to feed the 2NT transmitter. Dave admits that he's not had as much 'seat time' with this station as he'd like, but he has worked 9 states and a VY1 so far using 'crystal control' operation. Next month we will see Dave's modern station.

AROUND THE CLUBHOUSE

PAST, PRESENT & FUTURE INFO

Editor's Note: The following is report of a Club related ham radio event didn't directly happen at the Clubhouse… but non-the-less… it is a popular annual RCT event.

Prologue: Just like the past couple of years - FYBO – Held on Saturday Feb 6- consisted of two fun outside activities. (1) The operation of a QRP HF station to make contacts in the AZ SQRPIONS QRP Club's Freeze Your Buns Off radio sport event. Randy WB4SPB and Mike W7MFW are the point people for this activity. Bob K7MXE is the Grand Moff **[LINK]** for the Hidden Transmitter Hunt (aka Bunny Hunt) and was assisted by Rich KR7W who hid the transmitters. This report consists of two separate reports by Randy WB4SPB and Rich KR7W.

FYBO HF Operations

This year, W7DK operated in the Freeze Your Buns Off (FYBO) contest from the Rhododendron Garden Shelter at Pt. Defiance Park, using a single QRP station and a doublet wire antenna. Propagation conditions, other simultaneous contest events, and maybe lower overall participation combined to produce a smaller FYBO score than we are accustomed to. We made 8 QSOs, reaching WI, PA, TX, OK and CA. Our single 9-area QSO was hard-won (although the op reported our RST as 559!), and at least two other fairly strong stations calling CQ FYBO with 9-area calls did not hear us. Likewise, the bonus station NQ7RP was heard calling CQ but failed to hear our response. CA was our best state, with 4 QSOs.

It is always interesting to examine the online data that are available to us now. The Reverse Beacon Network heard us calling CQ on 40M, 20M, 15M and 10M, and their collected data show that on 20M, 15M and 10M our signals were good in UT, CO and NV and should have been readable in New England and the mid-Atlantic states. Given that we had decent coverage, perhaps overall participation in FYBO was low.

Reverse Beacon Network map shows the areas of the USA that W7DK's QRP signals were being received in during the time W7DK called CQ at FYBO.

Notable participants and helpers with FYBO setup: Jim W7ZND, Mike W7XH, Mike W7MWF and Randy WB4SPB. W7XH earned his first slingshot "eagle", making the two shots needed to raise the antenna in just three tries.

FYBO Bunny Hunt

It was a dry cool day for This Hidden Transmitter hunt. The following hams registered: Al N7OMS- Tacoma, Tom N7CFI and his son from CA- Gig Harbor, Whit KG7LNZ- Gig Harbor- Tacoma, Jim W7ZND (and buddy); Mason K7MWT and Tanner K7TMT and their dad Todd W7TAO- Mt Vernon.

Three transmitters were hidden afar from the start location. The closest was .3 miles and the furthest was .6 crow fly miles away. A very low power

Continued…

practice transmitter was hidden 75 ft away for newbies to get used to the equipment. Two of the three transmitters were hidden so that the hunter would walk to trail intersections that became decision points.

Tom N7CFI brought his nicely built- home brew switchable passive attenuator and Handy Talkie to test out. Most hunters used borrowed Active Attenuators connected to their 2M Handy Talkies.

All hunters except one found all three transmitters. The participants 'self scored' themselves using a Moff form. N7OMS Alan is the first place winner with a total hunt time of 50 minutes. The W7TAO family- Mason K7MWT and Tanner K7TMT is the second place finisher at 69 minutes.

Al N7OMS was the Bunny Hunt First Place winner with a 3 transmitter find time of 50 Minutes. Al uses a VK Sniffer receiver- which gives the hunter a big advantage over outboard attenuator rigs.

One hunter is now motivated to build his own 4 MHz active attenuator. All hunters indicated that they'd like to come to another hunt. Stay tuned for the exact date and time in April for another hunt.

TAKE THIS TICKET to PROVE that
YOU are theFIRST HUNTER to Find this XMTR 145.780
TAKE THIS TICKET to PROVE that
YOU are theFIRST HUNTER to Find this XMTR 147.575

Bunny Hunt Paperwork consists of map and score sheet. Green 'PRIME' tickets were taped to each transmitter flag. The first hunter to find that transmitter takes the ticket to prove to the judges that they were first to find it. This pile of papers belonged to Alan- N7OMS.

Tanner K7TMT, Todd W7TAO, and Mason K7MWT from Mt Vernon. This hunt was to prepare them for an upcoming ARES transmitter hunt event.

W7DK Brings back Logger's Certificate in honor of Centennial

by Dave W7UUU

The club is happy to announce that the long-held tradition of the Radio Club of Tacoma "Logger's Certificate" has been brought back to life in time to honor our 100th anniversary year. This certificate is awarded to any licensed radio amateur who documents that they have worked at least ten members of the club. Contacts can be made on any band using any mode, and even repeater contacts are allowed. There is no logging or QSL confirmation requirement as it's based solely on the honor system. Endorsements may be earned for each additional ten club members worked. Applicants do not need to be a member of the club to apply – in fact, the program from its inception has had the side benefit of helping to introduce new hams to the fact the club exists, and to encourage new members to join.

This would look good on YOUR hamshack wall.

The Logger's Certificate was originally issued in April 1957 and by the time the last award was delivered in November 2007 a total of 657 awards had been made – many documenting contacts with long-time influential members of the Radio Club of Tacoma including Doc Spike, W7OS, Jerry Seligman W7BUN and many others. From its inception until around the year 2003 the program was administered by Barbara Osborne, W7UYL. Nick Winter, K7MO, took over as custodian at that time and administered the award until November 2007. From that time until now no certificates were issued – the paper-based database system had simply become too cumbersome to maintain.

We're pleased to announce that effective immediately, the Logger's Certificate program has been revived, using a computer-based database. And thanks to the storage efforts of Nick and Barbara, we actually have a many-year supply of the original Logger's Certificate blanks from the second printing by long-time club member and professional printer Dick Ryan, W7RGD, in 1959. A computer template will be used to laser-print each form on the original paper.

So start listening for fellow club members on the repeaters and the HF bands to earn your own Logger's Certificate! Simply document the members you worked (preferably with a date, band and mode, for the database) and submit your entry to: loggers@W7DK.org

Certificates will be handed out at the General Meeting every month. You may also submit your entry at the clubhouse any time it's open. A special mail cubbyhole has been dedicated for the Logger's Certificate near the front door. Completed certificates for those who cannot attend the general meeting will be left in the same cubbyhole. The club will also produce reissues for anyone who believes they received a certificate in the past. Just provide your callsign so that the database can be searched. Eventually, all of the old records will be scanned and recorded, with a link at the club website so that call signs can be searched.

We look forward to seeing the Logger's Certificate tradition revived and hope that it again becomes the popular program that it was for over fifty years.

Big News!

1. Mike and Key ARC Ham Fest
2. RCT's PMT will have two tables of ham gear to sell.

Chat Up these two events on your Favorite Repeater

ANNOUNCING THE 35th ANNUAL MIKE AND KEY ARC ELECTRONICS SHOW & FLEAMARKET

MARCH 5, 2016 @ 9AM
PAVILION EXHIBITION HALL

WASHINGTON STATE FAIRGROUNDS
110 9th Avenue SW, Puyallup, WA 98371

ADMISSION - $9 (UNDER 16, FREE w/ADULT)
TWO FLOORS WITH 44,000 Sq FEET OF EXHIBITION AREA (>300 tables)
TALKIN 146.82/22 (PL 103.5)
RADIO GEAR * COMPUTERS * CLUB & INFO TABLES * PARTS
SNACK BAR * FREE PARKING * CONSIGNMENT AREA
OVERNIGHT SC/RV Camping Available * LICENSE EXAMS

Table Reservation Information: (253) 631-3756, ddmdink@gmail.com or n7wa@arrl.net
VE Exam Information: (425) 788 0452, ag7t@arrl.net

A Note about Property Management Team…

Your Radio Club receives a lot of its revenue from selling ham radio property at Clubhouse events, The ***Mike & Key Hamfest*** **[LINK]**, The CVARS Hamfest, and now on Ebay.

The sold items as well as items the club uses is from items donated to the club. Please do what you can to encourage people you know who have unwanted radio gear to dispose of– to donate it to RCT.

As mentioned at the top of this page– RCT's **P**roperty **M**anagement **T**eam will be selling radio gear at the Mike and Key Swap-meet. When you are attending the M-K be sure to stop by and thank them for what they do.

Surely you will meet a ham friend or two at the M-K… so tell them to stop by the W7DK tables and brows around. Chat it up on the repeaters. See you at M-K on March 5.

Thanks, Bark Editor

Antenna Modeling: Instructive and Free by Randy Myers, WB4SPB

You can use computer software to construct a "virtual" antenna and see how it behaves. Once you get the hang of it, simple wire antennas can be modeled in minutes. You can get an idea of how they will perform, what directions they will favor and what kind of load impedance they will present. Then you can tweak them to see what happens when you change things.

Very complex antennas can be modeled with more effort. That hare-brained antenna design you've been thinking about is worth modeling before you buy lots of copper and other materials to build it. Bigtime antenna designers always model before they prototype.

There are a number of antenna modeling applications, but most of them depend upon one of the two pieces of "core" software that are readily available. The first, NEC (Numerical Equivalent Code), was developed for the Navy by Lawrence Livermore Laboratories in the early 1980s, and one version of it (NEC-2) is in the public domain. NEC was designed to run on the mainframe computers of that day. A completely different "core" is MININEC, which was written independently to run on PCs before they got to be faster than the mainframe computers of old. Now, PCs are so fast there is no reason not to use NEC and several reasons to prefer it.

The difference between modeling applications that employ NEC under the covers is found mostly in the user interfaces added by the respective authors. These provide different ways of describing the antenna (its wires and other parameters) and different ways of presenting the results of a NEC computation, such as the antenna pattern.

Free NEC-based modeling software is available from EzNEC and 4NEC2. The free version of EzNEC is really just a demo and suitable only for getting to know the user interface (it works for modeling a single-wire antenna such as a dipole). 4NEC2 is highly capable and has a cantankerous user interface, but that's the one I like.

To use any antenna modeling program, you must describe your antenna to the software. Most often, this is done in a spreadsheet format. 4NEC2's wire spreadsheet looks this:

Geometry (Scaling=Feet) ☐ Use wire tapering

Nr	Type	Tag	Segs	X1	Y1	Z1	X2	Y2	Z2	Radius			comment
1	Wire	1	21	0	-33	35	0	33	35	#16			40M dipole "flat top"

Fig 1.

What are all those numbers? In a model, antennas are made of wires, and each line in the spreadsheet describes one wire. A wire has two endpoints in 3-dimensional space. Each endpoint will have X, Y and Z coordinates. Wires also have a radius. You can specify this directly or, with 4NEC2, you can use some pre-defined symbols that correspond to AWG wire sizes, in this case "#16" wire. Two wires that share an endpoint will be electrically joined together. They may meet at an angle, or not. Wires may not cross, so to build a cross, you must define 4 wires that share the endpoint where

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they meet. A wire may have a larger radius to simulate a metal tube.

For computational purposes, wires are mathematically divided into segments, and you must specify the number of segments in each wire. Generally, you should employ at least 10 segments per half wavelength. The more segments you use, the more accurate your model will be, but with more segments your model will also take longer to compute. With today's computers, you will probably not notice this until you build a model with hundreds of segments.

The spreadsheet above (**Fig 1**) defines a single wire that extends from point 1, described in the X1, Y1 and Z1 columns, to point 2 described in the X2, Y2 and Z2 columns. The coordinate system is Cartesian, with the intersection of the X, Y and Z axes being at (0,0,0). X and Y values may be positive or negative, depending on which side of the origin you want to place a point. If you model in free space, Z values can also be negative, but when you model practical antennas over ground, Z values will be positive.

In this case, the coordinates for the two endpoints are (0,-33,35) and (0,33,35). Since the X coordinates are zero, the wire will extend along the Y axis, from -33 to 33, for a total length of 66. The Z coordinate is 35, so the wire is 35 feet above ground (we're using feet as our basic unit of measure, but you can use inches or meters).

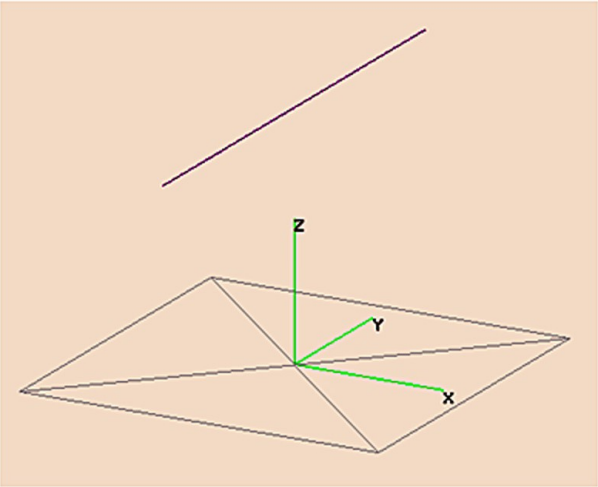

Fig 2. A representation of what the wire looks like in 3-dimensional space.

It can be hard, at first, to think in three dimensions. Fortunately, the software will allow you to view the antenna you are constructing, as shown in **Fig 2**. You can rotate this view and see it from any angle.

The wire has been given a "Tag", which is an arbitrary number that can be used to refer to the wire in other parts of the software. As specified in the "Segs" column (**Fig 1**), the wire is comprised of 21 segments and has a radius equivalent to that of AWG-16 wire.

This wire is almost an antenna, but it lacks a feedpoint. For doublet antennas, the feedpoint should be at the middle, and to arrange for that the antenna has been given an odd number of segments. This guarantees that there is a "middle" segment. Since the number of segments is 21, the middle segment is segment 11 (**Fig 3**).

Source(s) ☑ Show source ☑ Show loads ☐ Show Tr-line

Nr	Type	Tag	Seg	(opt)	Real	Imag	Magn	Phase	(norm)		comment
1	Voltage-src	1	11	0	1	0	1	0	0		

Fig 3. To indicate where the feedpoint or "signal source" is, you use the 4NEC2 Source spreadsheet.

Source number one is a "voltage source", which is the type most often used. The Tag and the Segment number determine the wire and position where the source will be placed. In this case, the source is on tag 1 (the only wire defined) at segment 11 (the middle segment of the wire). The remaining values are almost always set as shown.

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... Antenna Modeling cont 'd

The modeling program also needs to know what kind of ground system will be beneath the antenna. In a drop-down list, 4NEC2 provides quite a few choices, but "Real ground" is the most accurate. Next the ground's electrical parameters must be specified, and for our area the "MODERATE" pre-defined ground will be pretty close. If you know the actual conductivity and dielectric constants for your particular area, you can enter a "user specified" ground.

The last thing you must tell the modeling program is what frequency to model at, in this case, 7.15Mhz. There are lots of other parameters that can be specified. For example, the modeling program will assume that the wires are insulated copper, and you could be using bare copper wire or even aluminum. But these are enough to start.

When you run the model, you'll see output reported in two forms: an antenna pattern (**Fig 4 and 5**) and a set of electrical specifications.

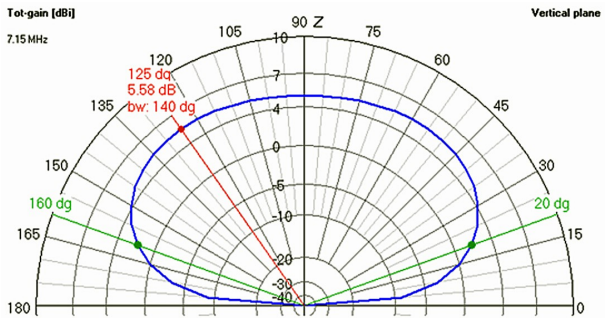

Fig 4. For this run, the antenna pattern as seen from the side.

In **Fig 4** the red marker indicates the direction of greatest radiation. For the pattern in the vertical plane, this is the "take off" angle. The green markers indicate the 3dB points or the "beamwidth" of the antenna.

Filename	_new.out	Frequency	7.15	Mhz
		Wavelength	41.93	mtr
Voltage	94.5 + j 0 V	Current	1.06 + j 0.34 A	
Impedance	80.8 - j 26.1	Series comp.	0.582	uH
Parallel form	89.2 // - j 276	Parallel comp.	6.138	uH
S.W.R.50	1.87	Input power	100	W
Efficiency	100 %	Structure loss	0	uW
Radiat-eff.	73.65 %	Network loss	0	uW
RDF [dB]	6.91	Radiat-power	100	W

Fig 6. The electrical specifications are reported above.

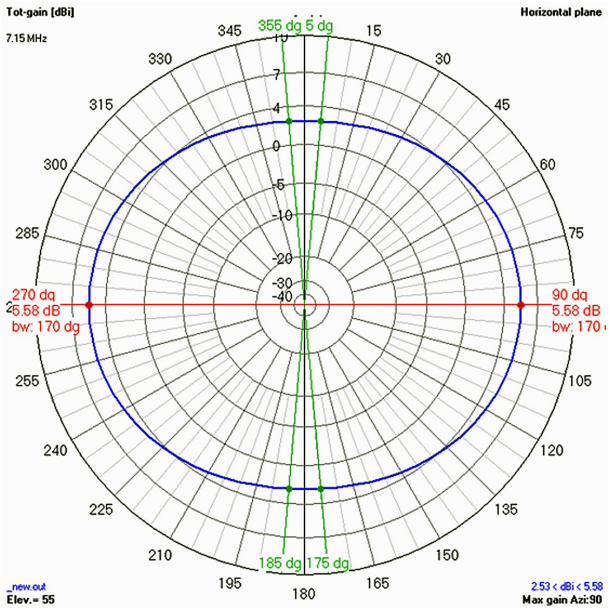

Fig 5. The antenna pattern as seen from overhead.

To begin with, you'll mostly be interested in the impedance (80.8-j26.1) and SWR seen with 50 ohm feedline (**Fig 6**). You may recall that impedance has both a resistive and a reactive component. In this case, 80.8 ohms is the resistive component, and -j26.1 ohms is the reactive component. 'j' is a convention used to indicate that this number is "complex". You don't have to understand how to use complex numbers at this point, but it is helpful to notice that this value is negative, indicating the antenna is a bit too short to be resonant at the modeled frequency.

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... Antenna Modeling cont 'd

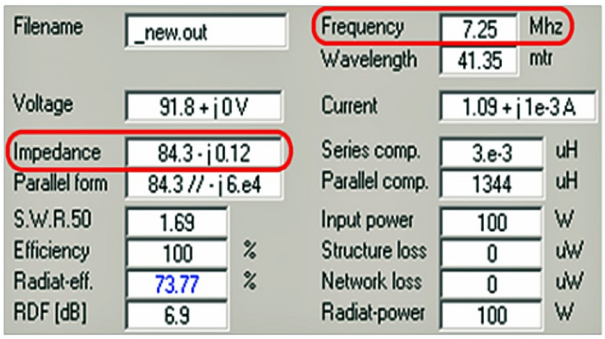

Fig 7. The antenna is modeled at 100 Khz higher in frequency.

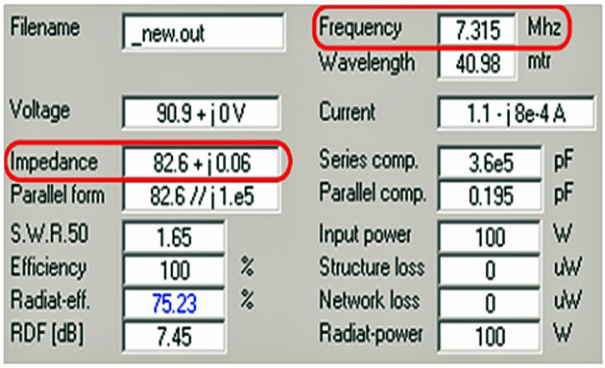

Fig 8. Antenna height changed to 50 ft and frequency rises to 7.315 Mhz.

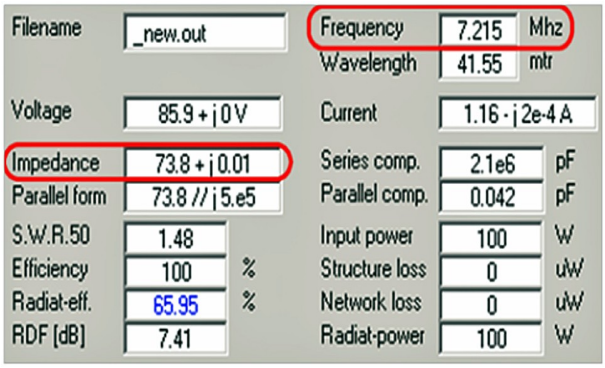

Fig 9. Antenna elevation is changed to 25 feet and now resonant frequency shows 7.215 Mhz.

Now the reactive component of the antenna's impedance is only –j0.12 ohms, very close to zero (**Fig 7**). The antenna is approximately resonant at this frequency, and the reported SWR of 1.69 indicates how well it will match a 50-ohm feedline.

The handbooks tell us that a resonant dipole has an impedance of about 73 ohms. Modeling will show you that this is only a general statement. In fact, if you adjust the height above ground, the thickness of the wire and the antenna material you will find the impedance varies, along with the resonant frequency. When the height is changed to 50 feet, the impedance of this antenna drops a little and the resonant frequency rises to about 7.315 Mhz, as shown in **Fig 8**.

Going down to 25 feet, you can see (**Fig. 9**) both the resonant frequency dropping a little bit (it was 7.25 Mhz at 35 feet) and the impedance now closer to that handbook number:

The interpretation of the other numbers reported here and the large amount of other information you can see in 4NEC2 is beyond the scope of this article. However, there are many online resources, and there is no substitute for hands-on experimentation.

Editor's Note: Randy WB4SPB plans on developing an Antenna Modeling Workshop to present at an upcoming 4th Wednesday Workshop at the RCT Clubhouse. Randy tells me that this article is "Required Reading" for attendance to the workshop.

To download 4NEC2, you can go to this website: http://www.qsl.net/4nec2/ [LINK]

For a very thorough introduction to antenna modeling, see:
http://wireless.ictp.it/school_2005/download/nec2/nec_part1.pdf [LINK]
http://wireless.ictp.it/school_2005/download/nec2/nec_part2.pdf [LINK]
http://wireless.ictp.it/school_2005/download/nec2/nec_part3.pdf [LINK]
http://wireless.ictp.it/school_2005/download/nec2/nec_part4.pdf [LINK]

TNT THE NEW THING

WHAT'S NEW AND NOTABLE IN HAM RADIO?

CONTRIBUTIONS BY READERS LIKE YOU

The Horse is Out of the Barn

by former WN7BDJ - Cub Reporter

Of the Big 3 Amateur Radio manufacturers- **Icom, Kenwood and Yaesu**… Icom is the first to produce a Direct Sampling **S**oftware **D**efined Amateur **R**adio Transceiver. **The IC-7300 [LINK** to spec and download page], this *horse of a different color*- was let out of the barn in August 2015 in Japan and is currently being sold in the United Kingdom for $1050 Euros or $1150 US. I predict that Icom will release the IC-7300 for US ham purchase at the Dayton Hamfest in May and dealers (HRO, AES, etc) will begin to take credit card numbers.

Some of the things I like about this radio: It's small (but, some hams will object) approx dimensions are 10" Wide x 10" Deep x 4" High which is about the same size as the popular Yaesu FT-897 and FT-991. Both the 897 and 991 are great radios for picnic table operations as well as trailer and motor home hamming. It sports 100 watts output, has a built in antenna tuner (probably the standard issue 3:1 correction ability), has the Icom remote antenna tuner jack (AH-4 and LDGs) and a USB connection. I suspect that the USB connection will provide a built in sound card and remote control to the PC that attaches.

There's a 4 inch visually appealing TFT Touch Screen that has the better than usual Icom RF Pan-Adaptor that displays RF and AF signals in real time. The operator initiates most radio functions by interacting with the touch screen and a Multi-Function knob. The frequency can be changed simply by touching the screen or, of course- with the BIG Knob. Youtube knows and shows: https://www.youtube.com/results?search_query=icom+ic-7300 [LINK]

Imagine that this set up is at the remote White River Campground at Mt Rainier NP. Image your radio connected to a simple 20M dipole in a tree and being powered by a 35 amp/hour SLA battery. You'd be NPOTA for sure.

Because of the SDR architecture, the receive noise floor is expected to be 10 dB lower than the popular IC-7200 analog+DSP transceiver. This means that weaker signals may not be lost in the noise - providing that your QTH has very low ambient noise to begin with- or like at a remote Forest Service car campground or a NPOTA site.

Whilst looking at the Icom UK user manual [LINK]- there's some items that I don't see. Such as a HDMI jack to plug a large screen to "Big Screen" the 4 inch display. I also do not see a place to plug in a mouse to control items on the screen like I can with my current Icom transceiver. However… that doesn't mean 'big screen' and mouse control could be accomplished via the USB port and a software application on

Go To Next Page...

Icom 7300 Cont'd… the station PC or your Ipad. The 7300 is not like the Flex SDR transceivers [LINK] that needs PC connectivity- it's more like the stand alone Elecraft KX3 [LINK] (a SDR QRP Transceiver).

Epilog: This short review of this 'Sasquatch' radio [LINK] (you know all about it- but not actually seen it) is to bring it to the attention of gentle Bark readers who might be looking to purchase their first HF+6M transceiver as a gift to themselves for upgrading to General or Extra Class… and to let readers know that this technological advanced HF+6M for a lower price than I'd expect- will soon be available to purchase in the USA. I predict that I'll be making contact with some **NPOTA** [LINK] ops and their IC-7300 this summer. TFRTF, KR7W Rich.

Mike and Key Hamfest– A Survival Guide of Sorts… by Rich KR7W

Here's some rules that I attempt to live by when attending the Big Kahuna of Ham Radio Swap-Meets- the Mike and Key Electronics Show and Flea Market. Of course rules to live by are much like new years resolutions- broken some times. YMMV.

That table has what Johnny is looking for. I'll give him a call on his smart phone.

1. If you are looking for something specific- then don't set high expectations that you'll find it. To be more sure that you'll find that specific treasure- Rent a table (must be done in advance) and show up as a SELLER the day before the event to set up your table. Heck, you don't even have to bring anything to sell… This 'day early' gives you free reign to roam about a smaller crowd of sellers only- which improves your odds of obtaining that rare gizmo you want There's way less competition this way. YMMV.

2F. If you go with friends… have a group huddle and share with each other what you are looking for. Then synchronize your cell or smart phones with each other's numbers. If you see Johnny's coveted item- then give him a call or text. I miss calls on my phone in large loud crowds- so set your ringer to 'stun' for best comms. In the past… I've tried to 'call a friend' using 2M/440 handy talkies with minimal success - as it was just too hard to hear the call.

3. Prepare to take care of yourself. I know (and you probably know this also) that I get irritated and impatient when I am hungry and tired. I bring a small backpack that includes a small thermos of coffee, a bottle of water, and finger food snacks. When I run out of steam from strolling down the rows of tables- stop n go, stop n

go, stop stop go… similar to the irregular march through the shopping mall at Christmas time… I need a break. So, I make a mental note of my 'get out of line' spot, head upstairs and north to the picnic area of tables that M&K set up for folks like me. Or, since I am a club member… I could head over to the Radio Club of Tacoma's club table, sit down to give one of the club's table volunteers a break while I have my snack. By the way… did I mention that snack bar and coffee hut charge more $$ than I would spend?

4G. Prepare to be GEEKY if GEEKNESS is in your nature. Depending what I am looking for… Into my small backpack- I might stuff a Volt Ohmmeter, a combination screwdriver (many different tips), needle nose pliers, small flashlight, and my digital camera. There just might be some gizmo for sale there that has the doo-hickey inside that I want to harvest. My tools could gain me access and enough

knowledge to make a buy or no-buy decision. By checking- I will be less likely to regret my decision. I've used my camera to take photos of someone's item for-sale that I might want build on my own. "A hundred bucks for that? I could build it for $10 with Home Depot parts!" GEEKS will appreciate this method of idea harvesting.

5B. My only Bargaining Tip: Bring lots of $1 bills. I have eyeballed what I wanted, turned around and rearranged my stash of dollars in my pocket, and after the sales spiel I reach into my pocket and pull out the wad of cash and say, "Hey, this is all I've got. Will you take $XX for it? I am sure that your wife doesn't want you to bring this stuff back home again, does she?" I brought home a boat anchor receiver that listed for $60 for $18 one time- as well as many other similar items. When it doesn't work- it's a good way to hone my acting skills for the next bargaining session.

6H. "Look what I bought", you might tell a friend you run into at 9:15 AM. Your friend might say, "Are you gonna carry that big thing around for three more hours?" Be prepared to encounter this issue. Since I am a Radio Club of Tacoma member… perhaps I could get permission to leave my heavy or bulky treasure at the radio club's club table upstairs- or at the club's **P**roperty **M**anagement **T**eam sales tables. There's a small chance that I could store it at the M&K flea market on the second floor - near those picnic tables. If these suggestions are a bust- then I'll simply take it to my car- but that could cost me valuable shopping time. The gate keepers will eagerly stamp my hand for easy re-entry.

7T. Be tolerant of others. Above I mentioned the stop n go, stop n go, stop, stop, stop n go march. It's easy for me to get irritated as the line moves erratically. I'll stick my neck out and take a look upstream. There might be a challenged person moving at their own pace up ahead… so I'll decide to about-face, head elsewhere and then come back later. I am super sensitive to smells. And some people in the line I am strolling in spent the night in the parking lot in their camper smoking cigarettes… others might be on the last day of their weekly bathing cycle. I tell myself to be tolerant. But if I cant- then I gotta retreat and take that hill at a later time. Happy Ham-Festing to You. 73 30 SK KR7W CL.

9 December 2015 Club Meeting MINUTES
The General Membership meeting was held at the Radio Club of Tacoma Clubhouse at 1249 South Washington Street, Tacoma, WA.

President Gary WG7X called the meeting to order at 7:30 PM.

Officers and board members present:
President Gary McAdams WG7X
Secretary Larry Watson KD4VOM
Board Mike Finnie W7MWF

A sign in sheet with the names of members and guests is attached to the original copy of these minutes. There were 41 names on the attendance roster.
PLEDGE OF ALLEGIANCE: Was led by President Gary WG7X
INTRODUCTIONS: Welcoming of guests and self-introductions were completed.
Several new visitors were welcomed, and new calls acknowledged
ILLNESS OR SILENT KEY: None reported
Correspondence:
Newsletters
Utility Bills
Membership Renewals
Newsletters and Journals
QEX, NCJ, Electric Radio
Election ballots
Club Insurance Renewals

COMMITTEE REPORTS:
VE Reports: John Clarke AC7WW
Tuesday, December 1st three VEs' traveled to Yelm where we were joined by another VE. We graded nine exams from seven candidates with three being passed. Three Technicians joined the Amateur Service. Thanks to Dale N3MO, Jan K7HTU and Stephen AD7AB for their time and effort.

Tuesday, December 8th, saw nine candidates at the clubhouse where five VE's graded 13 exams with nine passed. Results of the session were: Six Technicians one 15 years of age, one candidate upgraded to General and two candidates upgraded to Amateur Extra.
Thanks to the following VE's for their time and effort.

Jan, K7HTU	John, AD7AW
Rich, KK7VH	Mike, W7XH

The next monthly scheduled testing session will be next year. Tuesday January 12, 2016
Treasurer: No Report
The Club continues to search for someone to take up the Club Treasurers Position. A familiarity with computers, bookkeeping experience and how to balance a bank statement is desirable
Membership: Last reported at 325
Training: Next Technicians Class will be in February.
HF Station: Operational
Repeaters: Operational
Facilities: No Report
Property Management: Mike Finnie W7MWF
Reviewed recent Swapmeet and Donations
The E-Bay process is under review and expected to begin late this year or early next year.
Workshops: The December23rd Workshop will be a casual eyeball QSO, Station on the Air…
RCT BYLAWS AMENDMENT BALLOT:
The Secretary determined the attendance of current active members, and together

Continued… page xx

with the absentee ballots and by a verified show of hands by those present, approved the adoption of the Radio Club of Tacoma Bylaws amendment.
Copy attached to the original copy of these minutes

PROGRAM: K1N Navassa Island DXPedition. Dave Ellison W7UUU
The program featured the beautifully-produced 40-minute documentary of the K1N Navassa Island DXPedition from February 2015. Amazing aerial video of the island, with segments showing every operating position. Fascinating and entertaining glimpse into the making of an epic DXPedition. Even if you didn't work K1N you'll enjoy this video. And of course, fresh hot buttered popcorn will be served"

ANNOUNCEMENTS:
RCT ANNUAL AWARDS BANQUET:
A Thanks to all who made this year's Awards Banquet a success, especially Dave W7UUU and Anne N7ANN for all the arrangements.
Dave W7UUU and Anne N7ANN have arranged for reservations at the Tacoma Scottish
STRAIGHT KEY NIGHT
Join us for one of the highlights of the winter season, the New Year's Eve Straight Key Night held at the Clubhouse. Both an operating and social event with food and snacks, come join us for an enjoyable New Year's Eve.
DISCUSSION TOPICS:
None appeared

Radio Club of Tacoma
Board of Directors Meeting Minutes
January 6, 2016

Meeting called to order at 1900 by President Gary.

Officers and Directors Present

President	Gary McAdams WG7X
Vice President	Mike Mikuchonis W7TXZ
Secretary	Mike Finnie W7MWF
Treasurer	Vacant (W7XTZ Acting)
Board	Alan Ferguson N7OMS
Board	Nick Winter K7MO
Board	Bruce Hanson WE7P
Board	Paul Matney W7PFU

A quorum was present.

Silent Key or Illness None reported.

Minutes of December 2, 2015 Board Meeting were approved.

Secretary's Report (W7MWF) Mike reported usual correspondence; Insurance Policies; Info booth @ M&K Swapmeet has been reserved

Treasurer's Report (W7XTZ) Mike requested that when receipts are submitted to him that they be accompanied by the RCT Expense Reimbursement Form.

Committee / Reports

Membership (K7GRS) George reported that membership stood at 330 at the close of 2015.
Library (AD7AV) Doug presented the Annual Library Report and Funding

Continued… page xxx

Request, a copy of which is attached to these minutes. The Board expressed thanks to Doug and his team, and support additional future projects including the 'littlefreelibrary' kiosk. It was moved, seconded, and approved to commit $450.00 Library expenses for 2016. It was also agreed that the RCT Lending Library be known as the Doug DeMaw Collection.

Training Technician class will be held Jan 9/10; VE Exam Jan 12

Info Tech (WB4SPB) Randy submitted an IT report indicating all systems operating. He expressed thanks for Rich's (KR7W) efforts in constructing and installing shelving for computers and other IT devices. Randy also noted that Bruce WE7P had donated a newer computer for classroom use. The old computer and the retired IRLP computer were to be transferred to Property Management for disposition.

HF Operations (WG7X) Gary reported that all systems are operational.

Repeater Ops Status: Crawford Mtn intermittent problem. Tim and Andy trying to schedule a trip to inspect or repair. Other repeaters all OK; Liability Policy to DNR has been coordinated with Mercer Insurance Co.

Facilities Mgmt (WE7P) Mike W7MWF advised Board of fall hazard of stairs and requested permission to undertake installation of a supplemental rail. Board agreed and Mike will follow up and find a crew.

Property Mgmt (W7MWF) Mike reported that Andy KE7RTB and Jim W7ZND have committed to managing the EBay team. Other PMT members will assist, and we expect to be selling again on EBay within the next month; upcoming Swap Meets were identified; Mike presented a list of surplus items for disposition. It was moved, seconded and approved that the PMT be authorized to dispose of the equipment as they see fit. A copy of the list is attached.

Museum (KR7W) No report (See Straight Key Night report)

Weds Workshop Topic not yet identified

General Meeting In honor of the coming Centennial of the Radio Club of Tacoma, the January program will be a presentation on the resurrection of the W7DK "Logger's Certificate"

Unfinished Business

Centennial Planning Much planning still needed and proposed events and participation need identified.

Tower Inspection Nick K7MO is coordinating scheduling with Joe Herrington and expects the inspection to be undertaken by the end of February.

Bylaws Amendment The proposed by amendments to the Club Bylaws were overwhelmingly approved at the meeting of the General Membership on December 9, 2015. The updated Bylaws need to be posted to the Club website.

New Business

Regular and recurring expenses payment authorized by vote of Board of Directors

Presidential Appointments by President Gary WG7X

Parliamentarian	Peter AD7EU
Newsletter Editor	Richard KR7W
Website Admin	Joe K7ZG
Club Historian	Larry KD4VOM
Training Coordinator	Stephan AD7AB
Museum Curator	Rich KR7W pending his acceptance

Activity Reports and Discussion Topics

Annual Banquet The Annual Banquet was deemed a success and Kudos to all for efforts.

Straight Key Night Randy reported an excellent time was had and 22 valid QSO's were made.

ARRL Kids Day Randy reported that the event went well and three kids attended. Snow was a factor for poor turnout.

FYBO Mike reported that Winter Field Day consisting of FYBO and a Hidden Transmitter Hunt will be held again at Owen Beach on Februrary 6. (location subsequently changed to Rhododendron Garden shelter)

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Radio Club of Tacoma
General Membership Meeting Notes
January 13, 2016

The meeting was called to order at 7:30 pm by Vice President Mike W7XTZ at the Pierce County Library Administration Building.

Officers and Directors Present were

Vice President	Mike Mikuchonis W7XTZ
Secretary	Mike Finnie W7MWF
Board	Paul Matney W7PFU

The Pledge of Allegiance was led by Leonard KA7NWF.

Welcome and Self-Introductions were performed. New and Former members were recognized and welcomed: Bob W7AGE, John KE7AH, John KG7ECC and Michael K7SSC. There were 33 attendees listed on the sign-in sheet.

There were no reports of **Health and Welfare** issues, and no reports of Silent Keys.

Secretary's Report: Mike W7MWF reported receipt of the usual correspondence: membership renewals, periodicals, and QSO cards; he advised that the Secretary transition is proceeding smoothly. Also reported was confirmation that W7DK will have an information booth at the Mike and Key Hamfest in March.

Treasurer's Report: Acting Treasurer Mike W7XTZ advised he is still paying bills and making deposits. He also solicited for volunteers to fill the position of full-time Treasurer. The Field Day Pig and Suggestion Box were passed around.

Committee / Activity Reports

Membership: Mike W7MWF reported on behalf of George K7GRS that membership stood at approximately 330 at the end of 2015, and that additional renewals have been received in the past couple of weeks.

VE Report: John AC7WW reported that a testing session was held on January 12. There were 13 candidates, 25 exams were graded, and 12 were passed. Ten new individuals passed the Technician exam, one candidate upgraded to General, and one candidate upgraded to Extra. Examiners participating were Leonard KA7NWF, Bob KE7WPK, Stephen AD7AB, Charles AE7BM, Jan K7HTU, Gary K7EK, Andrew K7ASQ, and Whit KG7LNZ. The next testing session will be Tuesday, February 9th.

HF Operations: No issues were reported.

Repeater Ops: An intermittent issue with the Crawford Mountain repeater was reported. Tim K7TMW and Andy KE7RTB are trying to coordinate a trip to inspect and trouble-shoot the issue.

Facilities Management: Outside maintenance projects are on hold until the weather improves; a supplemental handrail on the staircase to the Library is going to be installed soon.

Property Management: Mike W7MWF reported that there are upcoming flea markets at Mineral (January 29) and the Mike & Key event on March 5. Mike also reported that the EBay team has been reactivated and will be managed by Andy KE7RTB and Jim W7ZND with assistance of other PMT

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members. A request was made to better notify Club members of items that are going to be disposed of, and Mike agreed to develop some sort of notification protocol.

Newsletter: It was noted that Rich KR7W has assumed the duties as Editor of The Loggers' Bark, and that the January 2016 issue is available on the Club website.

Straight Key Night: Randy WB4SPB provided a recap of the SKN event held on New Year's Eve. 22 QSOs were made by 7 operators on 20, 40, and 80 Meters. There were contacts made with 7 States. It was a fun and successful event with many folks stopping into the Clubhouse for pizza, desserts, and CW Bingo.

ARRL Kids Day: Mike W7XH reported that the ARRL Kids Day was held at the Clubhouse on January 3 during the snowstorm. 3 kids participated and made contacts on Phone, CW, Digital, and IRLP. Mike gave a tip of the hat to all RCT members who assisted. Plans are being made to host another Kids Day in June, 2018

4th Wednesday Activity Night: Randy WB4SPB announced that Rich KR7W will provide a program about Amateur Radio Direction Finding (ARDF) on Wednesday, January 27th at the Clubhouse beginning at 7 pm. This will be a preparatory class to build skills for the ARDF "Bunny Hunt" to be held in conjunction with the FYBO contest. Randy also presented and overview of Freeze Your Buns Off (FYBO) QRP Contest to be held on February 6th. The location this year is the picnic shelter at Fort Nisqually Living History Museum located at Point Defiance. Setup will begin around 8 am, on the air at 9 am, and cease operations around 3 pm. Come out and play in the cold weather and get some fresh air. More info is available in the current issue of The Loggers' Bark.

Program: Dave W7UUU provided an interesting and informative program about the history and resurrection of the Loggers Certificate program. Originally begun in 1957 as an adjunct activity to assist Civil Defense preparedness, the program to recognize operators who made 10 unique contacts with RCT members was viable until the late 1990s. Dave has spearheaded an effort to start the program again. Using certificate stock over 50 years old, Loggers Certificates will again be issued after an operator reaches the goal and applies. Let's support this program as a great way to help celebrate our 100th anniversary.

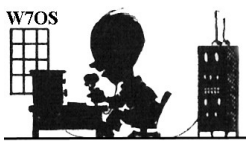
Announcements and upcoming events
Mineral Winterfest Swap Meet – Friday January 29 at 9am
Freeze Your Buns Off/Bunny Hunt Saturday, February 6 at 9 am Owen Beach, Pt Defiance Park
Mike and Key Swap Meet Saturday March 5 at 9 am Puyallup Fairgrounds

Tuning and Traffic: Dave W7UUU recently attained the "ARRL Triple-Play Award Worked All States" award - that's confirming via LoTW all 50 states on each mode: CW, Phone & Digital.

Atta boys/girls: Thanks to all who participated in SKN and Kids Day, and to Anne N7ANN for the refreshments tonight.

Door Prizes were won by John KG7ECC and Mike K7STO

The meeting adjourned at 8:30 pm.

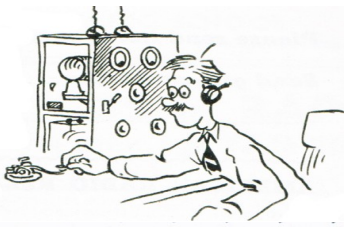


On Saturday-
Stop by the Museum and visit with the ghost of ole Doc Spike. It's rumored that he lives under the old Telegraphers Desk. Boo to U, Doc

DID YOU KNOW?

RCT's Property Management Team sold over $400 worth of used ham gear at the Mineral Boat Anchor Hamfest and Swapmeet– the last weekend in January. That's money in the Club's Bank Account. KUDOS!

93 YEARS AGO IN HAM RADIO



Snake Oil Radio? By W7OS Museum Staff

A while ago a generous benefactor donated to the club this radio contraption called 'THE ELIMINO , Aerial Eliminator'. It is brand new in its original box and looks old timey-low tech.

A single page of instructions from The Bon Marche with a hand written note that mentions, "Dept stores sell radio parts in 1922-23!" It claims to replace your outside antenna–

The ELIMINO Aerial Eliminator

ELIMINO

Greater Distance
Greater Volume
Greater Selectivity

Less Static
Less Interference
Better Tone Quality

"FORGET YOUR AERIAL"

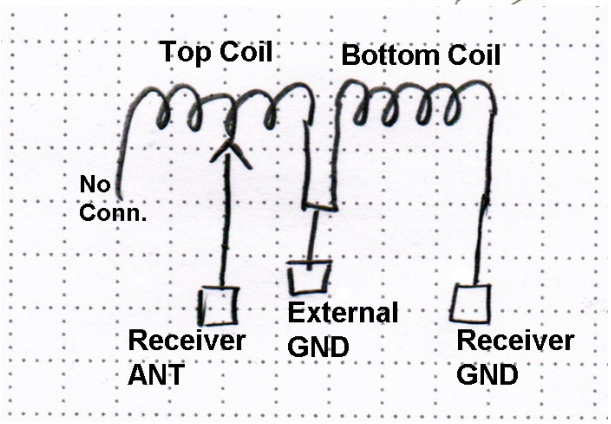
Works on Any Radio—Also Auto Radio

The ELIMINO takes the PLACE of your AERIAL but is so SMALL you can PLACE *anywhere* in your RADIO.

It is three inches wide, two inches long and two inches high, *and can also be used in conjunction with your aerial.*

To install ELIMINO on your RADIO: DISCONNECT AERIAL WIRE from AERIAL POST and follow DIRECTIONS on CUT above.

which I thought was needed back in the 1920-30s for good reception with commercially available low tech Regenerative and TRF entertainment radios.



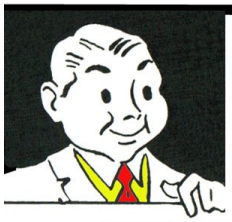
Schematic derived from looking at the unit. Fahnstock clips are shown as boxes above.

There's hardly any techy info on the web, but Google found me a United Kingdom antique radio forum where a few folks expressed their disbelief that the *Elimino* make any difference in signal strength.

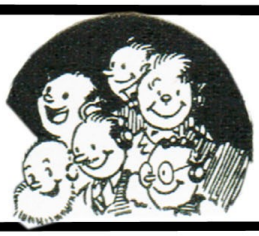
One chap remarks, "There have been aerial cons since long before I was born (1944 if you are interested). In the 60s it was a capacitor in a box on the end of a bit of coax for a TV aerial. Today a certain company, something about for all sells **ap. All these cons rely on the fact that high sensitivity receivers will get local stations on a bit of wet string. A good aerial can transmit as well as receive. Don't see any broadcasters using the Elimino or caps on end of coax for broadcasting."

Based on the schematic drawing above- I think it's a variable auto transformer with RF captured across EXT GND and Receiver GND, transformed to a higher RF voltage between EXT GND and Receiver ANT.

What's your theory Bark readers? Let the Bark know about your best guesses or theories. They will be noted in this column next month. Email the Bark Editor Here [LINK]



The Logger's Bark Photo Page



Randy WB4SPB was the main FYBO operator. Here he is repeatedly calling CQ with not much response. A total of 8 QSOs were made in the 4 to 5 hours of operation.

Jim W7ZND at the Bunny Hunt in the Bull Pen (approx 70 ft from the shelter) warming up by looking for the near by 5 mW practice transmitter.

To the Left… The club's Crawford Mtn 147.380 Repeater Building and tower. It's owned by the Dept of Nat. Resources. The shack is a weathered and leaky 10x10 ft building. The tower is 30 ft high and the Yagi at the top– aimed at Puyallup– belongs to W7DK/R. The other antennas are leftover junk from previous tenants.

Transmitter control room at K6KPH at Bolinas, CA. Transmitters are located on another floor.

Radio Club of Tacoma

1916 - 2016

100 Years of Service

The Logger's Bark is the *OFFICIAL PUBLICATION OF THE RADIO CLUB OF TACOMA*… and is published by RCT, PO Box 11188, Tacoma, WA 98411. The Radio Club of Tacoma is a non-profit corporation as defined by law, and all proceeds will be used exclusively for charitable and educational purposes. The Radio Club of Tacoma's Club House is located at 1249 Washington St, Tacoma, WA 98411, phone: 253-759-2040.

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Membership Info: FULL (licensed) and ASSOCIATE (non licensed) is $35 per calendar year. $30 for Licensed Seniors (65 and over). Licensed family members at same address pay $20 each for the first two and are free for the third, fourth, and so on. Full-time students, licensed or non licensed, up to age 25 are $20 per year. Note: fees are applicable for the calendar year: Jan to Dec. Lifetime membership is 20 times the yearly fee you are eligible for.. Lifetime memberships are calculated based on the FULL and ASSOCIATE rates.

Radio Club Repeaters

Central Tacoma:	147.280 + PL=103.5	
Crawford Mountain	147.380 + PL=103.5	(E of Olympia @ 1800 ft ASL)
Central Tacoma:	440.625 + PL=103.5	
North Tacoma:	145.21 – PL=141.3	

www.w7dk.org [LINK] - For the latest and most current information on events and activities, visit the Radio Club of Tacoma Website.